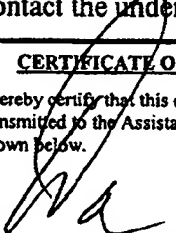


49. (New) The method of claim 20,
wherein at least some of the sampling is performed coincident with death of respective
ones of the sampled memory objects.
50. (New) The storage management facility of claim 28,
wherein at least some of the sampling thereby is performed coincident with death of
respective ones of the sampled objects.
51. (New) The computer program product of claim 41,
wherein the object lifetime statistics are based at least in part on sampling performed
coincident with death of respective ones of the sampled objects.
52. (New) The apparatus of claim 46,
wherein the sampling is performed coincident with death of the software objects.

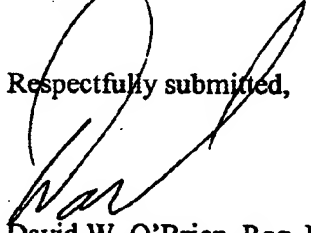
REMARKS

No new matter has been added. Examination on the merits is respectfully requested.

If the Examiner has any questions, Applicants respectfully request that the Examiner
contact the undersigned at the telephone number indicated below.

<u>CERTIFICATE OF FACSIMILE TRANSMISSION</u>	
I hereby certify that this correspondence is being facsimile transmitted to the Assistant Commissioner for Patents on the date shown below.	
 _____ David W. O'Brien	<u>1-22-03</u> _____ Date

Respectfully submitted,


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MARKED-UP COPY OF REPLACED PARAGRAPHS OF SPECIFICATION IN
ACCORDANCE WITH 37 C.F.R. § 121(b)(iii)

Please amend the paragraph beginning on page 1, line 8, as follows:

[1002] In addition, this application is related to U.S. Patent Application No. 09/855,454 [<not yet assigned, atty. docket no.: 004-4523>], entitled "OBJECT SAMPLING TECHNIQUE FOR RUNTIME OBSERVATIONS OF REPRESENTATIVE INSTANCES THEREOF," naming Agesen, Garthwaite and Harris as inventors and filed on even date herewith, the entirety of which is hereby incorporated by reference.

Please amend the paragraph beginning on page 16, line 11, as follows:

[1053] In the illustrated realization, birth, death and/or promotion events generate updates to object lifetime statistics **240**, which in turn are employed by collection, promotion, allocation, placement and/or pretenuring decisions or operations of a garbage collector, allocator or both. In implementations described more completely below, object birth-generated updates are performed coincident with allocation of a sampled object and object promotion and/or death-generated updates are performed coincident with a collection interval in which a sampled object is promoted to an older generation or is determined to be unreachable.

Please amend the paragraph beginning on page 18, line 25, as follows:

4. Counter: A counter can be employed as an arbitrary selection mechanism. For example, in one realization, a counter [is] initialized with some positive value is decremented each time an object is allocated. Selection employs a computationally efficient triggering mechanism. For example, if the carry-bit of the decrement is added into the address of the free pointer, then when the counter underflows, the load from the free pointer will be biased causing a misalignment trap. The trap handler can either perform the sampling directly or patch the allocation site to sample the next allocated object. Such an approach imposes some additional computational load (e.g., 4 extra instructions in the fast-path), but avoids skewing.

Please amend the paragraph beginning on page 28, line 15, as follows:

[1087] In general, a larger evaluation window will provide more precise information upon which to base a reversal decision. On the other hand, a window that extends far into the

allocation history may require excessive data storage and may increase overhead. Accordingly, suitable evaluation windows [of] are, in general, implementation dependent. In any case, if sampling of tenured objects in the evaluation window indicates that a sufficient portion of pretenured objects from an allocation site have died in such a window, then we reverse the allocation decision and patch the allocation-site to once again allocate into the young generation.